

Remarks

This is in response to the Office Action dated October 10, 2003. The Office Action rejected claims 1, 3, 5 and 7 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,446,123 (Ballantine et al.) in view of U.S. Patent No. 6,549,513 (Chao et al.). Claims 4 and 8 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ballantine et al. and Chao et al. and further in view of U.S. Patent No. 6,456,588 (Simmons). Claims 1-8 are currently pending.

Applicants traverse the rejections.

As described in the application, the present invention is directed to a method and system for monitoring the status of a network by a network management system that includes information describing the current network topology including information describing possible restoration routes. From this information, the network management system computes three measures of network health: (1) the sum of unrouted permanent virtual circuits, (2) the sum of permanent virtual circuits whose cost exceeds a prescribed multiple of an optimal route cost and (3) the sum of permanent virtual circuits off an optimal path. Each of these measures relates to a different aspect of network health, and collectively they provide a measure of overall network performance. The method compares the measures of network health to a threshold value and selects an optimum restoration route from the stored restoration routes.

Independent claims 1 and 5 both contain a limitation pointing out the three measures of network health that are computed. Both claims contain the following:

computing a plurality of measures of network health, including a sum of unrouted permanent virtual circuits, a sum of permanent virtual circuits whose cost exceeds a prescribed multiple of an optimal route cost, and a sum of permanent virtual circuits off an optimal path

The computation of these particular claimed measurements is not disclosed in the cited art, and therefore the cited art cannot render claims 1 and 5 obvious. The Office Action admits in paragraph 5 that Ballantine et al. does not disclose the computation of these measurements. The Office Action relies on various sections of Ballantine et al. which, according to the Office Action, teach "to receive data to have the system manipulate a wide variety of measurements". The Office Action then concludes that the limitations of claims 1 and 5 would have been obvious based on Ballantine et al. This is an improper

rejection. Claims 1 and 5 particularly and specifically claim the computation of three measures of network health: 1) a sum of unrouted permanent virtual circuits, 2) a sum of permanent virtual circuits whose cost exceeds a prescribed multiple of an optimal route cost, and 3) a sum of permanent virtual circuits off an optimal path. The disclosure in a prior art reference of manipulating a wide variety of data does not render the three specifically claimed measurements obvious. One skilled in the art, at the time the invention was made, would not be led to the three specific claimed measurements by the mere disclosure of manipulating a wide variety of data. Withdrawal of the obviousness rejection is requested.

For the reasons discussed above, all independent claims are allowable over the cited art. Allowance of all independent claims is requested.

All remaining dependent claims are dependent upon an allowable independent claim and are therefore also allowable. These dependent claims are also allowable because they add additional allowable subject matter as follows.

Dependent claims 3 and 7 contain the limitation of "monitoring said measures to sense when bandwidth needs to be added to the network". The term "said measures" relates back to the plurality of measures from claims 1 and 5 respectively. As described above in connection with claims 1 and 5, the claimed measures include the three particular measures discussed above. There is no disclosure in the cited art of using these particular measures to sense when additional bandwidth is necessary.

Dependent claims 4 and 8 both contain the additional limitation of "derating each edge of the network to have capacity of a predetermined fraction of real capacity". The Office Action in paragraph 12 admits that neither Ballantine et al. nor Chao et al. disclose this limitation. The Office Action relies on Simmons at col. 5, lines 50-62 as disclosing this limitation. However, the cited section of Simmons merely discussed the advantages of node-disjoint paths, with one such advantage being that overall link capacity per length can be reduced. This is not the same as the claimed subject matter of claims 4 and 8. As such, Simmons does not supply the missing disclosure.

For the reasons discussed above, all pending claims are allowable over the cited art. Reconsideration and allowance of all claims is respectfully requested.

Respectfully submitted,


Jeffrey M. Weinick
Reg. No. 36,304
Attorney for Applicant
Tel.: 973-533-1616

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AT&T Corp.
P.O. Box 4110
Middletown, NJ 07748